



2823
Attorney Docket No. 0756-2424

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Osamu NAKAMURA et al.

Serial No. 10/046,893

Filed: January 17, 2002

For: METHOD OF MANUFACTURING
SEMICONDUCTOR DEVICE

) Group Art Unit: 2823

) Examiner: H. Lee

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The references cited on PTO 1449 Form, Page 1 (List 1), are all patents of the Assignee (Semiconductor Energy Laboratory Co., Ltd.), which may relate to the subject application.

The references cited on PTO 1449 Form, Pages 1-4 (List 2), are references which were cited in U.S. Serial No. 10/056,055. U.S. Serial No. 10/056,055 corresponds to U.S. Patent Publication No. 2002/0134981 (List 1)

A check in the amount of \$180 is being submitted to comply with the provisions of 37 C.F.R. § 1.97(c).

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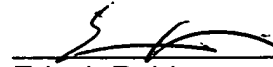
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/046,893
				Filing Date	January 17, 2002
				First Named Inventor	Osamu Nakamura et al.
				Group Art Unit	2823
				Examiner Name	H. Lee
Sheet	1 (List 1)	of	1	Attorney Docket Number	0756-2424



U.S. PATENT DOCUMENTS						
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		Number	Kind Code ² (if known)			
		6,204,154		Zhang et al.	03/20/2001	
		6,355,509		Yamazaki	03/12/2002	
		6,383,852		Zhang et al.	05/07/2002	
		2002/0098628		Hamada et al.	07/25/2002	
		2002/0102764		Yamazaki et al.	08/01/2002	
		2002/0102776		Yamazaki et al.	08/01/2002	
		2002/0125480		Nakamura et al.	09/12/2002	
		2002/0134981		Nakamura et al.	09/26/2002	
		2002/0151120		Yamazaki et al.	10/17/2002	
		2002/0155652		Yamazaki et al.	10/24/2002	
		2002/0182783		Takayama et al.	12/05/2002	
		2002/0182785		Miyairi	12/05/2002	
		2002/0182828		Asami et al.	12/05/2002	
		2002/0197785		Yamazaki et al.	12/26/2002	
		2003/0008439		Ohnuma	01/09/2003	
		2003/0082859		Ichijo et al.	05/01/2003	
		2003/0089911		* Kasahara et al.	05/15/2003	
		2003/0122129		Yamazaki et al.	07/03/2003	

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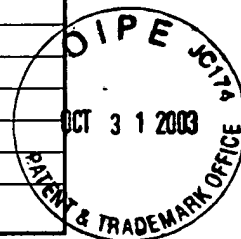
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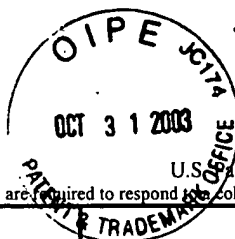
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				Examiner Name	H. Lee
Sheet	1 (List 2)	of	4	Attorney Docket Number	0756-2424



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		Number	Kind Code ² (if known)			
		3,535,775		Garfinkel et al.	10/27/1970	
		4,371,403		Ikubo et al.	02/01/1983	
		4,477,308		Gibson et al.	10/16/1984	
		4,534,820		Mori et al.	08/13/1985	
		5,244,819		Yue	09/14/1993	
		5,275,896		Garofalo et al.	01/04/1994	
		5,403,772		Zhang et al.	04/04/1995	
		5,426,064		Zhang et al.	06/20/1995	
		5,481,121		Zhang et al.	01/02/1996	
		5,488,000		Zhang et al.	01/30/1996	
		5,492,843		Adachi et al.	02/20/1996	
		5,501,989		Takayama et al.	03/26/1996	
		5,508,533		Takemura	04/16/1996	
		5,529,937		Zhang et al.	06/25/1996	
		5,534,716		Takemura	07/09/1996	
		5,543,352		Ohtani et al.	08/06/1996	
		5,563,426		Zhang et al.	10/08/1996	
		5,569,610		Zhang et al.	10/29/1996	
		5,569,936		Zhang et al.	10/29/1996	
		5,580,792		Zhang et al.	12/03/1996	
		5,585,291		Ohtani et al.	12/17/1996	
		5,589,694		Takayama et al.	12/31/1996	
		5,595,923		Zhang et al.	01/21/1997	
		5,595,944		Zhang et al.	01/21/1997	
		5,604,360		Zhang et al.	02/18/1997	
		5,605,846		Ohtani et al.	02/25/1997	
		5,606,179		Yamazaki et al.	02/25/1997	
		5,608,232		Yamazaki et al.	03/04/1997	
		5,612,250		Ohtani et al.	03/18/1997	
		5,614,426		Funada et al.	03/25/1997	
		5,614,733		Zhang et al.	03/25/1997	
		5,616,506		Takemura	04/01/1997	
		5,620,910		Teramoto	04/15/1997	
		5,621,224		Yamazaki et al.	04/15/1997	
		5,624,851		Takayama et al.	04/29/1997	
		5,637,515		Takemura	06/10/1997	
		5,639,698		Yamazaki et al.	06/17/1997	
		5,643,826		Ohtani et al.	07/01/1997	
		5,646,424		Zhang et al.	07/08/1997	
		5,654,203		Ohtani et al.	08/05/1997	
		5,656,825		Kusumoto et al.	08/12/1997	
		5,663,077		Adachi et al.	09/02/1997	
		5,677,549		Takayama et al.	10/14/1997	
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		Number	Kind Code ² (if known)			
		5,696,386		Yamazaki	12/09/1997	
		5,696,388		Funada et al.	12/09/1997	
		5,700,333		Yamazaki et al.	12/23/1997	
		5,705,829		Miyanaga et al.	01/06/1998	
		5,712,191		Nakajima et al.	01/27/1998	
		5,744,824		Kousai et al.	04/28/1998	
		5,773,327		Yamazaki et al.	06/30/1998	
		5,814,540		Takemura et al.	09/29/1998	
		5,843,225		Takayama et al.	12/01/1998	
		5,888,858		Yamazaki et al.	03/30/1999	
		5,893,730		Yamazaki et al.	04/13/1999	
		5,897,347		Yamazaki et al.	04/27/1999	
		5,915,174		Yamazaki et al.	06/22/1999	
		5,932,893		Miyanaga et al.	08/03/1999	
		5,949,115		Yamazaki et al.	09/07/1999	
		5,956,579		Yamazaki et al.	09/21/1999	
		5,961,743		Yamazaki et al.	10/05/1999	
		5,977,559		Zhang et al.	11/02/1999	
		5,985,740		Yamazaki et al.	11/16/1999	
		6,022,458		Ichikawa	02/08/2000	
		6,027,987		Yamazaki et al.	02/22/2000	
		6,048,758		Yamazaki et al.	04/11/2000	
		6,063,654		Ohtani	05/16/2000	
		6,066,518		Yamazaki	05/23/2000	
		6,071,764		Zhang et al.	06/06/2000	
		6,072,193		Ohnuma et al.	06/06/2000	
		6,077,758		Zhang et al.	06/20/2000	
		6,084,247		Yamazaki et al.	07/04/2000	
		6,087,679		Yamazaki et al.	07/11/2000	
		6,093,934		Yamazaki et al.	07/25/2000	
		6,100,562		Yamazaki et al.	08/08/2000	
		6,111,557		Koyama et al.	08/29/2000	
		6,121,660		Yamazaki et al.	09/19/2000	
		6,133,073		Yamazaki et al.	10/17/2000	
		6,133,075		Yamazaki et al.	10/17/2000	
		6,133,119		Yamazaki	10/17/2000	
		6,153,445		Yamazaki et al.	11/28/2000	
		6,156,590		Yamazaki et al.	12/05/2000	
		6,156,628		Ohnuma et al.	12/05/2000	
		6,160,268		Yamazaki	12/12/2000	
		6,162,704		Yamazaki et al.	12/19/2000	
		6,165,824		Takano et al.	12/26/2000	
		6,168,980		Yamazaki et al.	01/02/2001	
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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
		JP	07-130652			05/19/1995		AB
		JP	07-183540			07/21/1995		AB
		JP	08-078329			03/22/1996		AB
		JP	09-074207			03/18/1997		FULL
		JP	3032801			12/18/2000		AB
		JP	2001/210828			08/03/2001		AB
		JP	2000/260777			09/22/2000		AB
		EP	0 651 431			05/03/1995		ENG

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		Masayasu Miyake et al., <i>Characteristics of Buried-Channel pMOS Devices with Shallow Counter-Doped Layers Fabricated Using Channel Preamorphization</i> , IEEE Transactions on Electron Devices, Vol. 43, No. 3, March 1996, pp. 444-449	
		Lurmg S. Lee et al., <i>Argon Ion-Implantation on Polysilicon or Amorphous-Silicon for Boron Penetration Suppression in p+ pMOSFET</i> , IEEE Transactions on Electron Devices, Vol. 45, No. 8, August 1998, pp. 1737-1744	
		Kevin S. Jones et al., <i>Boron Diffusion Upon Annealing of Laser Thermal Processed Silicon</i> , Ion Implantation Technology 2000, IEEE 2000, pp. 111-114	
		D.J. Llewellyn et al., <i>Implantation and Annealing of CU in InP for Electrical Isolation: Microstructural Characterisation</i> , Optoelectronic and Microelectronic Materials and Devices Proceedings, IEEE 1997, pp. 313-316	

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